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### REMARKS

Claims 1,2,4-9 and 11,12 are in the case. Claims 1,2,4-9 and 11,12 have been rejected under 35 U.S.C. 103(a) over Mueller (U.S. 5,532,053) in view of Beavers et al. (U.S. 4,939,009).

The invention is a laminate structure which is a laminate of a layer comprising one or more copolyetheresters (Co-PEE), a tie layer comprising an ethylene / vinyl acetate copolymer, a moisture vapor control layer, and a substrate that may be woven or non woven. The Co-PEE layer must contain at least 50% by weight of the Co-PEE, and the ethylene / vinyl acetate copolymer must contain about 10 to about 70% of vinyl acetate units.

The applicants will first review the structures disclosed and claimed by the present application and the references.

The order of the layers in present invention is given by the schematic sketch below.



(MV = moisture vapor barrier.)

Claim 1 states that the MVTR of the structure shall be asymmetrical, being higher in the direction from PEE layer to moisture vapor control layer.

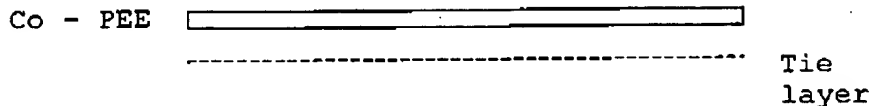
The examiner states (in summary) that the invention is obvious because of Mueller (U.S. 5,532,053) in light of Beavers (4,939,009). The respective inventions of these references are given below as schematics of the layer order.

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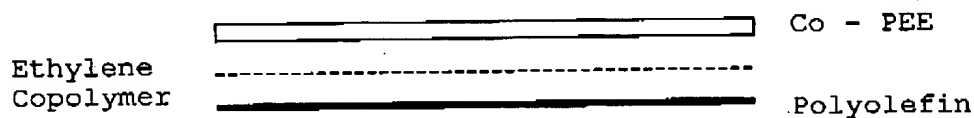
**Meuller**

See column 2, lines 8-22 for a description of a two layer embodiment of Meuller's invention.



(Note that the claimed laminate in Meuller is a trilaminate with a further Co-PEE layer adjacent the tie layer – see claim 1 of Meuller.)

**Beavers**



The examiner further states that the invention is obvious as combining the two references followed by experimentation to optimize the properties of the final structure would be obvious to one skilled in the art.

Applicants respectfully disagree that the invention is obvious over the references for the following reasons.

**1. Comparison with Cited Art**

The invention should be considered as a whole (*in re. Antonie*, 559 F.2d 618, 619) and the relatively high asymmetry in MVTR of the present invention should be considered to a part of the invention and is entirely unexpected and nonobvious from the prior art.

The examiner claims (paragraph 5 of the office action of December 15, 2004) that the thicknesses of the various layers in the laminate are “result effective variables” that would be an obvious result of experimentation to optimize the MVTR

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ratio of the film. However, "obvious to try is not the standard of 35 U.S.C. 103" (*in re*, Antonie, 559 F.2d 618, 620). Similarly in *re* Waymouth 499 F.2d 1273, 1276 in which the experimentation was not obvious as it "*would not have come from within the teachings of the art*" (italics in original).

Beavers states that the layered films of the invention range in from 3 – 4 mils (75 – 100 microns) up to 50 mils (1.25 mm) (Column 2 lines 47 – 49). The structure of the present invention is therefore not described and there is simply no teaching or motivation to move outside of this range and no motivation to test or use the structure of the Beaver's invention as a vapor permeable film with asymmetrical MVTR.

The thickness that is taught by Beavers would lead to very small, and possibly unmeasurable (using the technology of current measuring procedures within the art), values of MVTR for which asymmetry in MVTR would have no significance. In fact, Beavers teaches that MVTR is important (column 4 lines 34 and 35) but then goes out to point out that the importance is due to the need to maintain a low MVTR to keep the concentrations of medical solutions constant (column 4 lines 36 – 41). The thickness of the film, especially the polyolefin, defined by Beavers would indicate that MVTR would be negligible for his invention and one skilled in the art would recognize that fact.

Mueller is solving the problem of producing a laminate for medical garments in which a high MVTR is required. Although an MVTR of greater than 750 grams/m<sup>2</sup> per 24 hours is called for in claim 1 of Mueller, greater MVTR's than that are optimum for this application, and Mueller teaches that a thickness of 1 mil (25 microns) or less is needed in order to achieve above 750 grams/m<sup>2</sup> per 24 hours. In the present application, the vapor control laminate is taught as having typically 5 to 10 and preferably 20 times less MVTR with the vapor control layer than without it. This represents a significant reduction in MVTR and the two publications therefore teach away from each other.

Present applicant also submits that nobody skilled in the art would consider laminating a polyolefin film to the core laminate structure of Mueller (shown above) in

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order to obtain either an asymmetrical MVTR or a MVTR sufficient for the application being considered – namely a breathable construction material. In fact the industry typically solves the problem of achieving breathability in non porous polymer films by either using a high level of filler and stretching the film to obtain a microporous structure or using a tight nonwoven structure such as is found in Tyvek®.

*2. Discovery of Unexpected Results in the Present Case.*

As supported by the Declaration of Yannick Albertone (enclosed) MVTR data for examples of embodiments of the present invention are given below. The MVTR ratio is  $\geq 1.7$  for all examples.

Ref	Structure(thickness)	MVTR SAC	MVTR CAS	Ratio
138 B-3	PE/EVA18/A M6000 (5/2/25)	58.5	106	1.8
138 G-3	PP/EVA18/A M6000 (5/2/25)	36.3	71.5	2
138 B-4	PE/EVA18/A M6000 (2/2/25)	134	224	1.7
138 E-4	PE/EVA9/AM 6000 (2/2/25)	33.7	72.8	2.2

**Comments**

PP or PE is the MVTR control layer

EVAzz is the tie layer, (For example EVA18: contains 18% VA)

AM6000 is the copolyesterether

MVTR unit is  $\text{g/m}^2 \cdot \text{day}$

MVTR was been measured at 38°C/85%RH

It is respectfully requested that the Declaration of Yannick Albertone be entered of record.

Applicants submit that two aspects of these data are worthy of being considered unexpected. One is that the thickness of the polyolefin layer is capable of controlling the MVTR of the laminate within the range required of the application. This observation is contrary to the teachings of current art, in which microporous structures as described above are used. The second observation is that a relatively constant

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and high MVTR ratio (around 2.0 and in all cases  $\geq 1.7$ ) can be maintained over the range of film structures that are of interest.

Accordingly, Applicants request that the Examiner acknowledge that the cited references have been overcome and respectfully request a notice of allowance for the pending claims.

Respectfully submitted,



**ARNE R. JARNHOLM**  
**ATTORNEY FOR APPLICANT**  
Registration No.: 30,396  
Telephone: (302) 992-2394  
Facsimile: (302) 992-3257

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